that the risk of this accident is considerable. Which of the two has the less of risk it is difficult to say positively, but probably the balance of evidence is somewhat to the advantage of incisions. But let us ask, why should either be resorted to? Why not in all cases of large stones in females employ the lithotrite? There may be a few very exceptional cases in which the very large size of the stone and the worn out health of the patient (as in case 17 in our list) render lithotrity inadmissible, but even as regards them, the result of incision treatment is not encouraging, and they are besides very rare. In all others, however, in those, for instance, in which the stone is neither too large nor too hard to be crushed, we can see no good reason whatever, why a patient should be subjected wilfully to the risks of incontinence, which undoubtedly attend both immoderate dilatation, and the employment of incisions, whilst we have such an instrument as the lithotrite. Lithotrity in the female is, from obvious anatomical considerations, simple and easy. As far as we are aware, its general results have been most satisfactory. As seen above in the cases before us, it was adopted four times, and in all the instances the patients recovered without any remaining incontinence.

Proportionate frequency of stone in the two sexes.—It has been generally believed that about one female comes under surgical care for stone in the bladder to every twenty males. This, at least, is the conclusion come to by Mr. Coulson, in his work on "Diseases of the Bladder," after citing data from various authorities upon the subject. In other words, about five per cent. of our stone patients are females. This result appears to agree very closely with what has occurred in our English hospitals during the period which our statistical reports comprise.

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26. *The Reparative Process in Human Tendons after Subcutaneous Division for the Cure of Deformities.*—W. ADAMS, Esq., read before the Royal Medical and Chirurgical Society (June 28) a paper on this subject, illustrated by a series of specimens and drawings from fifteen post-mortem examinations. Specimens of reunited tendons after division were exhibited from ten cases, and also drawings, made by Ford, of the recent appearances in thirteen cases, at periods between four days and three years after the operations. These specimens had been collected by Mr. Adams during the last eight years, and were principally from patients operated upon at the Royal Orthopædic Hospital; but for two specimens he was indebted to Mr. Erichsen and Mr. Curling. After alluding to our at present scanty information on this subject, and describing the recent appearances in fifteen cases, the author gave a general summary of the reparative process, describing—1st. The immediate results of the operation. 2dly. The commencement and nature of the reparative process. 3dly. The general appearance and structure of the newly-formed connective tissue, or new tendon. And 4thly. The junction of the new with the old tendon. This was followed by an account of the circumstances which may interfere with the perfection of the reparative process, or entirely prevent it, so that non-union of the divided tendon may result. Complete failure of union had been witnessed by the author only in the posterior tibial tendon, but it appeared that there is considerable risk of such an occurrence whenever tendons are divided in or near to dense tubular sheaths. It was shown that imperfect union might result either from some constitutional defect in the reparative powers of the patient, or from injudicious after-treatment in a variety of ways, but principally from too early and too rapid mechanical extension. The conclusions which the author considered to be established by the above series of cases were arranged under nine different heads. It was stated that tendon is one of the few structures of the body capable of reproduction or regeneration, and that the newly-formed tissue acquires within a few months of its formation the structural characters of the old tendon so perfectly, as that, under the microscope, it is with difficulty distinguishable from it; but it does not acquire through its substance the uniformly opaque, pearly lustre of old tendon; in the mass it retains a grayish translucent appearance, so that the recent section affords an easy method of distinguishing the new from the old tendon. The greatest length of perfectly formed new tendon which the author had seen was two inches and a quarter, and this was in the

tendo-Achillis of an adult, a year and a half after it had been divided by Mr. Curling. That the process by which new tendon is formed is essentially similar in animals and in man; that the perfection of the reparative process is in direct proportion to the absence of extravasated blood and inflammatory exudation; and that the sheath of the tendons, when consisting of bone-textured areolar tissue, as in the tendo-Achillis and other tendons surrounded by soft tissues, is of importance—1st. In preserving a connection between the divided extremities of the tendon. 2dly. In furnishing the matrix in which the nucleated blastematous, or proper reparative material, is effused. 3dly. In giving definition and form to the newly-developed tendinous tissue. That the new tendon always remains as a permanent tissue, and as an integral portion of the tendon, the divided extremities of which it has been formed to reunite. In the specimen exhibited, in which Mr. Adams had divided the tendo-Achillis three years previous to death, an inch and a quarter of new tendon was clearly traceable. The average length of new tendon formed in children to reunite the divided extremities of the tendo-Achillis, Mr. Adams considers to be from half an inch to an inch, and in adults from one to two inches. The author considered the facts adduced in this paper were amply sufficient to disprove the linear-cicatrix theory—the theory at present in vogue, and supported by all his colleagues—which assumes that the newly-formed tendinous structure has a disposition to undergo a process of gradual contraction, such as we see taking place in the cicatrices of the skin after burns, to which it has been compared, and that ultimately it becomes absorbed, the muscular structure at the same time becoming elongated by the force of the contraction of the cicatrix, so as to allow of the reapproximation of the ends of the divided tendons, and the formation of a linear-cicatrix. From the present observations it appeared that in the cure of deformities, muscles are elongated by the increased length of their tendons, obtained by means of subcutaneous division, and the development of new tendon formed for the purpose of reuniting the divided extremities of the old tendon. The mechanical and physiological effects of this increased length of the tendons were described; and lastly, the author stated that when recontraction of the foot takes place, and the deformity returns at a distant period after tenotomy, this does not depend upon absorption of the new material, or new tendinous tissue formed previously to unite the divided extremities of the old tendon, but upon structural alterations taking place in the muscular tissue. In three cases of relapsed deformity of the foot examined by the author, the new tendinous tissue formed after the previous operations remained, and could be easily distinguished from the old tendon. These facts were regarded as additional evidence against the linear-cicatrix theory.—*Med. Times and Gaz.*, July 30, 1859.

OPHTHALMOLOGY.

27. *Acute Pain of Glaucoma removed by Operation.*—Mr. Haynes Walton relates (*Med. Times and Gaz.*, July 16, 1859) the following case:—

"A female, in middle age, was sent to me in private by Mr. Wall, of Paddington, with acute glaucoma of the left eye, which was very tense, much injected, the pupil dilated, and the iris pressed forwards by the semi-opaque lens. Vision was quite lost; and I was consulted solely on account of the severe suffering, sometimes lasting for several consecutive hours, but more generally in paroxysms, which nothing has been able to subdue. The extreme vascularity of the eyeball, and the general plethora, induced me to order cupping to the temple, and purgatives. Not the slightest benefit ensued. Opiates, both locally and generally, were then tried, with no more effect than securing better nights' rest than hitherto, but the general health was deranged by the narcotics, which were discontinued. Other drugs were administered in vain. Thus, after a period of five months, the patient got no material benefit either from myself or from any other surgeon by whom she had been treated, and she had applied to several.